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Blockholder Dispersion and Firm Value*

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Abstract

This paper analyzes the impact of blockownership dispersion on firm value. Blockholdings by multiple blockholders is a widespread phenomenon in the U.S. market. It is not clear, however, whether dispersion among blockholder is preferable to having a more concentrated ownership structure. To test for the direction of the effect, we use a large dataset of U.S. firms that combines blockholder information, shareholder rights information, debt ratings, accounting information, and financial markets information. We find that a large fraction of aggregated block ownership negatively affects Tobin's Q. The negative impact is larger if blockowners are more dispersed, suggesting that a concentrated ownership structure is to be preferred on average. Results are robust to controlling for blockholder type as well as proxies for shareholder rights. Our empirical findings are also confirmed if we study the impact of ownership dispersion on firm debt ratings rather than Tobin's Q.

Key words: corporate governance, ownership structure, multiple blockholders, firm value.

JEL classification: G3, G32.

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1 Introduction

Corporate governance refers to the set of mechanisms that direct and control management activities within companies. Besides formal (e.g., contracts and legal protection) and informal (e.g., reputation) arrangements, large shareholders or blockholders may also play an important role in governance structures. Stakeholders may rely on a large blockholder (internal control), or a potential large instantaneous blockholder (external control) to restrict management's discretionary power. Kang and Shivdasani (1995), for example, show that managers of poorly performing Japanese firms are at greater risk to be replaced in the presence of large shareholders. Shleifer and Vishny (1997) suggest that good governance systems combine some type of large blockholder with legal protection of both majority and minority shareholder rights.

A critical question is whether the combination of good shareholder rights with the presence of (several) large shareholders constitutes good governance for all stakeholders. Karpoff, Malatesta and Walking (1996) indicate that the beneficial impact of shareholder activism may be modest. In general, large shareholders may have difficulties to cover private costs associated with the provision of what essentially is a public good (monitoring). This then leads to a suboptimal level of activism from a social point of view (Shleifer and Vishny (1986), Admati, Fleiderer and Zechner (1994)). Moreover, shifting the balance of power towards one of the stakeholders of a company could enlarge agency conflicts among different stakeholders. Large shareholders might simply try to secure private benefits by misusing their increased power for preferential self-treatment at the expense of other stakeholders (LaPorta, Lopez-de-Silanes, Shleifer and Vishny (2002)). Empirical estimates by Barclay and Holderness (1989), Nenova (2003) and Dyck and Zingales (2004) confirm the possible existence of such private benefits of control.

Our main interest here is the impact of concentrated versus dispersed blockholdership on firm value and perceived debt quality. If blockholder presence produces positive externalities such as monitoring of management, then a higher concentration of blockholdings allows shareholders to internalize more of the potential benefits. This provides a larger incentive to be actively involved. It also prevents possible free-riding problems in a multiple blockholder setting (Black (1990)).

Instead of governance through voice, recent studies stress the potential importance of governance through exit in mitigating agency costs. Admati and Pfleiderer (2009) and Edmans (2009) indicate that prices might better reflect fudamental value as a result of informed trading by blockholders, inducing management to undertake value-enhancing activities. Edmans and Manso (2009) show that multiple blockholders have a larger, and as a result more credible incentive to trade ex-post. Dispersed blockholding could therefore be relatively more effective in terms of governance through exit.

When blockholder presence is negatively related to firm value, Maury and Pajuste (2005) indicate that the impact of dispersed versus concentrated block ownership is subject to two countervailing forces. On the one hand, all blockholders can form a coalition, share private benefits, and in effect act like a single large blockholder. On the other hand, only a subset of blockholders might be able and willing to extract private benefits, whilst the remaining blockholders simply try to prevent this through monitoring.

In our analysis, we emphasize the possibility of a third outcome. In a setting with multiple blockholders, an alternative option is that different blockholders try to pursue their own objectives independently. This can be due to blockholders being technically unable in practice to form the coalitions mentioned before. Blockholders may also be unwilling to enter a coalition if they would be better off when simply not hampering each other's attempts to extract private benefits independently. Such uncoordinated actions may be even more detrimental to company value. This alternative possibility of independent extraction has not received much attention in the previous literature. Determining its importance in relation to the other options such as coalition formation or monitoring is an empirical question, which we take up in the current paper.

Empirical evidence on the effect of multiple blockholders on firm value is limited. Much of the evidence is also non-U.S. related, see for example Faccio, Lang and Young (2001) for Western Europe and East Asia, and Volpin (2002) for Italy. Differences in institutional settings and the (resulting) differences in ownership structure itself make comparisons across countries difficult, if not impossible (LaPorta, Lopez-de-Silanes and Shleifer (1999)). Though majority ownership by a single large blockholder is not common, the U.S. blockholder ownership data reveals that the presence of multiple blockholders, especially outside blockholders, is a widespread phenomenon (Holderness (2009)).

We contribute to the empirical literature on corporate governance by investigating the relation between blockholder concentration and firm value. Our final data set consists of approximately 3,500 U.S. firm year observations from 1996-2001. We proxy for blockholder concentration by measures related to the Herfindahl index, while controlling for other effects known from the literature. In all our regressions we use Tobin's Q as a proxy for firm value.

Our empirical findings reveal a negative relation between blockholding and Tobin's Q. A higher fraction of the company's shares held by blockholders negatively impacts Q. On top of this, however, the negative relation is more pronounced if the set of blockholders is more dispersed. The results are robust to a number of variations in the model specification. Based on the importance of outside blockholders for governance, we also concentrate our analysis on the dispersion of outside blockholdings only. Again, we find a strong negative association between outside blockholder dispersion and Q. Controlling for shareholder rights proxies in the regressions does not change the results. Compromising on shareholder rights negatively impacts Tobin's Q. We find some mild evidence of an interaction effect between (outside) blockholder presence and shareholder rights, which would be in line with LaPorta et al. (2002). The effect, however, does not drive out the significant negative impact of blockholder dispersion on Tobin's Q.

As a final robustness analysis, we investigate the effect of blockholder dispersion on perceived debt quality. As a proxy for debt quality, we use the firm's issuer ratings as assigned by Standard & Poor's. Standard & Poor's (2005) claim that governance issues are regularly examined as part of their credit ratings process. They note that the existence of more than one owner may lead to conflicts of control. Several other studies have studied the relation between corporate governance and credit ratings, though none of them explicitly looked at blockholder concentration. Bhoraj and Sengupta (2003) and Ashbaugh-Skaife, Collins and LaFond (2006) indicate that bond ratings may be positively related to the percentage of shares held by institutional investors. While Bhoraj and Sengupta (2003) find a negative relation between the percentage of shares held by institutional blockholders and corporate bond ratings, Ashbaugh-Skaife et al. (2006) find a negative relation between the number of blockholders and ratings. Our empirical findings confirm that the presence and percentage of shares held by blockholders is important. However, blockholder concentration itself is relevant as well. We show that dispersed block ownership is correlated with lower rating assignments. This is in line with our earlier results on Tobin's Q.

The remainder of this paper is organized as follows. Section 2 presents our set-up and the theoretical background. Section 3 describes the data. Section 4 discusses our empirical results. Section 5 concludes.

2 The Theory

The presence of large shareholders can have either a positive or negative effect on firm value. The *shared benefits hypothesis* suggests that a large shareholder empowered with sufficient shareholder rights is beneficial to all of the company's stakeholders as he mitigates the agency problem between management and stakeholders as a group. Karpoff et al. (1996), however, indicate that the beneficial impact of shareholders activism may be modest. The *private benefits hypothesis*, by contrast, states that large shareholders can be detrimental to firm value, see for example Bhojraj and Sengupta (2003) and references therein. If blockholders pursue their own objectives, they can expropriate value from other stakeholders, such as minority shareholders, debt holders, employees, and customers. Thus, the classic agency problem between management and shareholders is replaced by an agency problem between powerful blockholders and other stakeholders of the firm (LaPorta et al. (2002)).

Empirical evidence on the possible magnitude of potential private benefits of control is sparse as private benefit extraction is difficult to measure. Dyck and Zingales (2004) measure these benefits using an event study methodology. Their estimates range from -4 percent in Japan to +65 percent in Brazil, while their U.S. estimate equals 2.7 percent. The large variation in the estimates may reveal that the value of a given block depends on other factors as well, such as the company's ownership structure (e.g., number of blockholders) and the presence or absence of certain governance provisions (i.e., shareholder rights).

We use the framework of LaPorta et al. (2002) and Maury and Pajuste (2005) to study the possible effects of multiple blockholders on firm value. Let firm value be denoted by I and assume there are two blockholders. Define α_1 as the share in the residual claim held by blockholder 1. To ensure that value diversion is inefficient, the blockholder bears a cost $c_1(s, k, \cdot)I$ when a share s is extracted (i.e., the *stealing* case). This cost explicitly depends on s and k. The variable k refers to shareholder rights, where larger values of k represent stronger shareholder rights. We assume $c_{1s} > 0$ and $c_{1ss} > 0$, such that it becomes increasingly more expensive to engage in private benefit extraction. We also assume $c_{1ks} > 0$, implying the marginal cost of stealing increases when shareholder rights increase. This implies that in a situation with good minority shareholder rights it becomes easier for other shareholders to monitor and discipline a large shareholder.

Besides blockholders interested in private benefit extraction, we allow for a second blockholder who is possibly not engaged in resource diversion. The second blockholder holds a share α_2 in the residual claim. She has the option to try to prevent private benefit extraction by actively monitoring the actions of the first blockholder. If she does, we assume lost resources are fully recovered with probability p. For the moment, we assume that monitoring can be done without cost. If monitoring costs are included in the model, optimal monitoring activity decreases and private benefit extraction increases.

The values of blocks 1 and 2 are given by

$$\begin{aligned} V_1 &= (1-p)(\alpha_1 \phi_s I + sI - c_1(s,k,\cdot)I) + p(\alpha_1 \phi_{ns} I - c_1(s,k,\cdot)I) \\ &\approx (1-p)(\alpha_1(\phi_{ns} - \delta s)I + sI - c_1(s,k,\cdot)I) + p(\alpha_1 \phi_{ns} I - c_1(s,k,\cdot)I) \\ &\approx (\alpha_1(\phi_{ns} - q\delta s) + qs - c_1(s,k,\cdot))I, \qquad (1) \end{aligned}$$

and

$$V_2 \approx \alpha_2(\phi_{ns} - q\delta s)I, \tag{2}$$

where $q = 1 - p$, and where ϕ_s and ϕ_{ns} denote equity as a fraction of total company value in the stealing and non-stealing cases, respectively. The terms $(\alpha_1\phi_s I + sI - c_1(s, k, \cdot)I)$ and $(\alpha_1\phi_{ns}I - c_1(s, k, \cdot)I)$ in (1) represents the payoffs when lost resources are not, respectively are fully recovered. The second line of (1) uses the contingent claims setting of Merton (1974), writing the change in company value as the fraction diverted, s, times the equity delta, δ. We can interpret the term preceding I in the last line of (1) as the *effective share* owned by the blockholder. We assume that the blockholder tries to maximize this effective share, possibly at the expense of other stakeholders.

Total firm value equals

$$V_{Firm} = q(1 - s)I + pI. \tag{3}$$

A larger s thus leads to a lower firm value. Solving the first order condition of V_1 with respect to s, we obtain

$$c_{1s}(s, k, \cdot) = (1 - \delta\alpha_1)q. \tag{4}$$

Differentiating this once more with respect to α, k, and p, we get

$$\frac{ds^*}{d\alpha_1} = -\frac{(1-p)\delta}{c_{1ss}(s^*, k, \cdot)} < 0, \tag{5}$$

$$\frac{ds^*}{dk} = -\frac{c_{1ks}(s^*, k, \cdot)}{c_{1ss}(s^*, k, \cdot)} < 0, \tag{6}$$

$$\frac{ds^*}{dp} = -\frac{(1-\delta\alpha_1)}{c_{1ss}(s^*, k, \cdot)} < 0. \tag{7}$$

Consider initially the case of one blockholder who, by definition, is not monitored ($p = 0$). The first derivative (5) reveals that a higher residual claim α_1 makes the blockholder internalize more of the value diversion effects, thus lowering his incentives to engage in value diversion. The second inequality (6) states that an improvement in shareholder rights k leads to less value diversion due to better opportunities for minority shareholders to monitor and discipline blockholders. Finally, (7) indicates that by allowing for a second monitoring blockholder and setting $p > 0$, a higher probability of detection lowers the optimal level of value diversion.

In a setting with two blockholders, we can distinguish three different cases: (i) blockholders collude to divert resources, thereby maximizing their combined effective ownership stake; (ii) one blockholder diverts, while the other tries to prevent this through monitoring; (iii) both blockholders divert independently. Maury and Pajuste (2004, 2005) restrict their attention to cases (i) and (ii). Though collusion is an option, it may be hard to achieve in practice as much more coordination is needed than for example for case (iii). Moreover, a priori it is not clear why it would be economically uninteresting for blockholders to divert resources independently, and to reciprocally tolerate resource diversion by other blockholders. We argue therefore that it is also interesting to investigate alternative (iii) and to account for it in empirical work on the relation between ownership structure and value. In case (iii), the objective function for blockholder 1 equals

$$V_1^{Ind} = (\alpha_1(\phi_{ns} - \delta(s_1 + s_2)) + s_1 - c_1(s_1, k, \cdot))I, \tag{8}$$

where Ind denotes independent diversion. Interchanging subscripts 1 and 2 we have a similar expression for blockholder 2. Both equations can be solved jointly to obtain the optimal levels of diversion for both blockholders.

For the collusion case, we denote the optimal level of (colluded) diversion as s_c. The collusion case needs one additional key parameter: the fraction of the diversion benefits accruing to blockholder 1, denoted as λ_1. The remaining fraction of diversion benefits, denoted as $1 - \lambda_1$, accrues to blockholder 2. It is clear that λ_1 is a key determinant of the sustainability (and possible dominance) of a collusion outcome. If λ_1 is too low, blockholder 1 is better off by stealing independently or by taking the risk of being monitored. Vice versa, if λ_1 is too large, blockholder 2 may be better off by monitoring or by stealing independently.[1]

We can formulate the conditions that have to be satisfied for a collusion outcome to be sustainable, compare Maury and Pajuste (2004). The conditions effectively pin down the

[1]For simplicity, we assume that only blockholder 2 possibly engages in monitoring. The example can easily be extended to also consider the case where blockholder 1 monitors blockholder 2.

participation constraints for the individual blockholders to engage in collusion rather than in monitoring or in independent diversion. The equations themselves, however, add little insight: within the current stylized set-up of our model the dominating outcome (collusion, monitoring, independent stealing) depends very much on the precise specification of cost functions, parameters, etc.

To fix ideas, we consider a concrete example with quadratic cost functions $c_i(s, \cdot) = \theta_i s^2$. We assume that $\theta_i > 0$ changes with the size of the blockholding α_i. In particular, we assume that larger blocks are more efficient in resource diversion, $\partial\theta_i/\partial\alpha_i < 0$. As in Maury and Pajuste (2004), we can show that for a particular choice of the fraction λ_1 of diversion benefits accruing to blockholder 1, the collusion outcome dominates the monitoring outcome for both blockholders 1 and 2. We then only need to compare the combined effective ownership stake of the two blockholders under the collusion outcome with the independent stealing outcome. Even in the current simple set-up with quadratic cost functions, we find many where the combined effective ownership under independent stealing exceeds the combined collusion outcome. To be specific, consider the case $\phi_{ns} = 0.30$ and $\delta = 0.75$, $\alpha_1 = 0.25$ and $\alpha_2 = 0.2$, and $\theta_1 = 11$ and $\theta_2 = 13$. In the collusion case $\theta_c = 8.5$. With these parameter values we obtain the left-hand panel in Figure 1.

The left-hand panel in Figure 1 presents the marginal cost curves for our two blockholders under the assumption of quadratic cost functions. The optimal diversion level s lies at the point where the marginal cost $\theta_i s_i$ reaches the level $1 - \delta\alpha_i$. Using our current assumptions, the two lines labeled B and A give the marginal cost curves for blockholder 1 and 2, respectively. Given the current setting the optimal aggregate diverted share under independent stealing (7.0%) is larger than under collusion (3.9%). Moreover, the combined effective ownership stake in the independent stealing case of 15.2 percent dominates the coalition outcome of 14.8 percent. In such cases, one of the blockholders must be made worse off by colluding, thus making the collusion unsustainable.

If independent stealing is optimal, blockholder dispersion may directly impact firm value. To study the impact of blockholder dispersion, assume that the combined fraction of stock held by both blockholders ($\alpha_1 + \alpha_2$) is kept fixed, while the difference between the block sizes ($\alpha_1 - \alpha_2$) is increased, where $\alpha_1 > \alpha_2$. This exercise makes blockholder 1 more dominant with respect to blockholder 2, thus leading to a more concentrated ownership structure and less blockholder dispersion. Under our current assumption of more efficient stealing for larger blocks, the marginal cost curve for blockholder 1 tilts down, while that for blockholder 2 tilts up. At the same time, the critical cost level $1 - \delta\alpha_1$ for blockholder 1 shifts down, whereas that for blockholder 2 shifts up. By connecting the points of intersection, we obtain a locus characterizing the optimal levels of diversion under independent stealing for different block sizes α_i.

The two lines labeled B' and A' give the marginal cost curves for blockholder 1 and 2 when α_1 is raised to 0.3 whilst α_1 decreases to 0.15. In this case the combined effective ownership stake in the independent stealing case turns out to be unchanged at 15.2 percent, and still dominates the coalition outcome of 14.8 percent. However, the optimal aggregate diverted share under independent stealing (6.7%) is lower than the one obtained in the less concentrated setting (7.0%).

In general, as long as the optimal diversion level (s) is a convex function of the critical cost level, less blockholder dispersion leads to a higher firm value. In such cases, the decrease in optimal stealing by blockholder 2 more than offsets the increased stealing by blockholder 1. We emphasize that the converse may hold for other parameter values or cost structures. The actual direction of the effect of blockholder dispersion on value in a real life setting can only be answered empirically. This is done in the next sections.

3 Data

We combine data from several sources. Standard & Poor's issuer ratings are obtained from the June 2005 Standard & Poor's CREDITPRO 7.0 database. Firm-specific data are taken from COMPUSTAT, and daily stock data are obtained from the Center for Research in Security Prices (CRSP). To obtain data on governance provisions and stock ownership, we use additional data sources by the Investor Responsibility Research Center (IRRC), described further below. In the end, matching the different data sources leaves us with between 3,315 and 3,654 firm year observations, depending on whether we use corporate credit ratings or Tobin's Q as the dependent variable. Table 1 provides the variable descriptions.

To proxy for shareholder rights we use the indicators on the presence or absence of individual governance provisions as constructed by Gompers, Ishii and Metrick (2003). Their GIM index is based on publications by the Investor Responsibility Research Center (IRRC). GIM is constructed using all 22 charter provisions, bylaw provisions, and other firm-level rules, plus possible coverage under six state takeover laws, as present in the IRRC data. The GIM index is raised by 1 point if either a provision is present that compromises on shareholder rights, or a provision is not present that strengthens shareholder rights. The data are available for July 1995, February 1998, November 1999, and January 2002. To obtain values in between reporting dates we interpolate, assuming provisions do not change until the IRRC publishes new data.

The most widely used source for ownership data is the *Compact Disclosure* (CD) database of Standard and Poor's. Dlugosz, Fahlenbrach, Gompers and Metrick (2006) show that available data on blockholding from the CD database has many mistakes and biases such as double counting. Their cleaned database focuses on companies covered by the Investor Responsibility Research Center (IRRC) and covers the period 1996-2001.[2]

Blockholders are shareholders owning 5% or more of a company's stock. Such blockholders are required to file their ownership stake at the SEC. The CD database allows us to distinguish between different types of shareholders: (1) Outside blockholders; (2) Employee Stock Ownership Plans (ESOPs); (3) Officers; (4) Directors; and (5) Affiliated entities. Category 1 includes all blockholders that are not part of one of the other categories. Category 2 represents the total number of shares held by ESOPs and, by definition, does not include employee shares held through non-ESOP retirement plans. Category 3 includes officers, even

[2]The blockholder dataset excludes companies with multiple classes of stock. This immediately implies that a distinction between voting and cash flow rights becomes less relevant.

when they are also directors. Category 4 refers to non-officer directors. Finally, category 5 represents any blockholder (e.g., an individual, company or trust) whose voting outcome is partially influenced, but not completely controlled, by an officer or director of the company. Categories 2 to 5 will be referred to as inside blockholders. The CD database gives type as well as percentages of shares held by individual blockholders.

Averaging over years, more than 80 percent of the companies within our sample has at least one blockholder. Moreover, 75 percent actually has at least one outside blockholder, and this fraction gradually increases over time.[3] If we look at the percentage of shares held by different blockholder types, we observe that affiliated shareholdings per firm can be relatively large, especially when we compare this to other inside blockholders. Most companies in our sample either have one or no inside blockholder, possibly complemented by some outside blockholding. By contrast, outside blockholders are often paired by one or more outsiders. This is reflected in the average number of outside blockholders per firm, ranging from 2.1 to 2.4 over the years.

Table 2 reports the distribution of blockholder types using all observations. In the first line of the table we see that for most companies outside blockholders are the most prevalent. The lower part of the table gives an overview of successor types, conditioned on the largest blockholder type. For example, the last column shows that, given that the largest blockholder is an outsider, 22.9% of the observations have no other blockholder, 9.4% have a second largest inside blockholder, and 67.7% have a second largest outside blockholder. Conditioning on the same event reveals that, when there is a third blockholder, it is most likely an outsider as well, indicated by the 42.2%.

Our primary focus in this paper is on the dispersion of blockholdings. One way to measure this is to consider the number of blockholders per company. This, however, discards the effect of the shareholding distribution itself. For example, a total ownership stake of 40% held by two blockholders of equal size (20%-20%) can have very different implications than a 35%-

[3] Cremers, Nair and Wei (2007) note that around 63 percent of the companies within their dataset, stretching from 1991 to 1997, have at least one *institutional* blockholder.

5% distribution. The latter resembles much more a case with a single dominant blockholder than one with multiple (equally powerful) blockholders.

To also account for the block sizes held by different blockholders, we use the Herfindahl index. This index is a standard summary statistic of industry concentration in the literature on industrial organization, see for example Tirole (2003, Ch. 5). We use a scaled version of the index defined as

$$Herfindahl = \frac{[(\%Block1) + (\%Block2) + \ldots + (\%Block5)]^2}{[(\%Block1)^2 + (\%Block2)^2 + \ldots + (\%Block5)^2]}. \tag{9}$$

Thus, if there is just 1 blockholder, $Herfindahl = 1$. If there are 5 blockholders with equal shareholdings, $Herfindahl = 5$. If by contrast one out of 5 blockholder holds, for example, 30% of the company's shares, while the others hold 5% each, $Herfindahl = 2.5$, which is considerably smaller than 5.

We also experimented with alternative concentration measures, including logarithmic transformations and measures based on differences in block sizes, but our results appeared to be robust. We therefore omit them from the presentation.

4 Empirical Results

4.1 Firm Value: Tobin's Q

Our sample is an unbalanced panel. To determine the effect of ownership structure and shareholder rights on Tobin's Q, we use a random effects specification, where we include time dummies as well as industry dummies based on the 2-digit Standard Industrial Classification (SIC) codes.

Besides control variables, the first model in Table 3 includes both GIM as a measure of shareholder rights as well as the ownership stakes held by different blockholder types. The control variables enter with their expected sign, though the coefficients on age, capital intensity and capital expenditure lack statistical significance. In particular, we would expect higher profitability, Delaware incorporation, and a higher sensitivity to general market movements to be positively related to Tobin's Q. Firm age, size, leverage and asset tangibility tend to be negatively related to Q. Though the coefficient is negative, insignificance of firm age may be due to the fact that firm maturity is already captured by the size variable. A relatively large debt burden can be negatively (e.g., riskiness, debt overhang) or positively (e.g., disciplining role) related to firm value. In accordance with the results by Demsetz and Villalonga (2001) and Maury and Pajuste (2005) we obtain a significant negative relation between Tobin's Q and leverage. The effect of capital intensity is negative, but insignificant. Firms with high asset tangibility presumably have a lower proportion of intangible assets (goodwill, human capital), which has a negative impact on Q. One can argue that capital expenditure may be negatively related to Q (in line with the previous reasoning). Conversely, it could as well be an important indication of investment opportunities (Daines (2001)), leading to a positive impact on Q. Empirically, the coefficient for capital expenditure is insignificant. The coefficient on the governance index GIM is negative and significant. Compromising on shareholder rights has a negative impact on Tobin's Q, which is in line with the result of Gompers et al. (2003).

We now turn to the effect of block ownership and blockholder dispersion. We distinguish between companies with different total size of blockholder ownership. We construct three brackets: small (strictly less than 10% combined ownership; 483 cases), medium (from 10% up to 25%; 1,262 cases), and large (more than 25%; 1,374 cases) combined block ownership stakes. As the data only has information of blockholders with stakes of at least 5%, it is clear that the first bracket only contains cases with a single blockholder. The other two brackets allow us to differentiate between the impact of blockholder dispersion for small and large combined ownership stakes.

The first model in Table 3 confirms the broad negative relation between the percentage of shares held by blockholders and Tobin's Q. Dummy variables distinguishing whether blockholders of a particular type are present, all turn out to be insignificant.

If we include in our second model specification the interaction between ownership size and dispersion, some interesting results appear. As explained earlier, the Herfindahl index for the smallest block ownership bracket always equals one. As a result, no interaction term can be incorporated for the smallest bracket. As Table 3 indicates, the other two interaction terms turn out to be highly significant. In particular, the impact of the size of combined ownership stakes for the largest two brackets more than halves. For the second bracket, the coefficient becomes insignificant, and even changes sign, whereas the coefficient for the highest bracket is only significant at the 10% level. By contrast, the interaction terms with the Herfindahl index are both significant at the 1% level. This suggest that lower blockholder concentration would be relatively more detrimental in terms of firm value. Though not reported, this tendency is confirmed if we look at differences between stakes held by different blockholders.[4] The latter measure decreases when blockholder concentration gets lower. We indeed find positive significant coefficients when we use this alternative measure.

The control coefficients in our Model (2) remain largely unaffected. The only noteworthy change is that the dummy for director blockownership now becomes significant at the 10% level. Interestingly, the coefficient is positive, indicating that a director owning a large stake of the company is good for value. This is more in line with an incentive based explanation than with the value diversion explanation.

To investigate the robustness of our findings, we also specify Model (3). Here we perform a similar analysis as before, while concentrating on outside blockholders only. We replace the total percentage of shares held by all blockholders by the total percentage of shares held by outside blockholders. Similarly, the concentration measures now focus exclusively on the five largest outside blockholders. The results of the model specifications (3) and (4) are in line with our previous findings in models (1) and (2). Most coefficients remain stable. In particular, we can conclude that if we focus on external blockholder dispersion, such dispersion is bad for firm value.

As a final check, we investigate whether the results are affected due to an interaction between the presence of blockholders and shareholder rights. Blockholdings may be less

[4] In particular, $[(\%Block1 - \%Block2)^2 + (\%Block2 - \%Block3)^2 + \ldots + (\%Block5 - \%Block4)]^2$ scaled by the sum of the equity stakes squared.

detrimental for value if accompanied with sufficiently well-developed shareholder rights. In line with LaPorta et al. (2002), if shareholder rights are good, minority shareholders can discipline blockholders more. To distinguish between companies with good and bad shareholder rights, we specify a final model (5) in which we interact combined shareholder ownership with a dummy indicating whether the GIM index of the company was 10 or lower. The GIM index of 10 is roughly the sample median. Companies with a small GIM index have good shareholder rights.

The empirical findings in model (5) indicate that the interaction terms with GIM turn out to be significant at the 10% and 5% level for the first two brackets, respectively. The coefficients are positive, indicating that good shareholder rights combined with higher block ownerhip is good for value. This is in line with LaPorta et al. (2002). Interestingly, however, these additional terms leave the effect of dispersion in block ownership unaffected.

4.2 Blockholder dispersion and debt: corporate credit ratings

To determine whether and to what extent the firm's ownership structure and shareholder rights affect debt holders we look in the following at the impact of these governance elements on corporate ratings as well.

In particular, ownership structure and shareholder rights represent 2 out of 4 dimensions of the corporarate governance score (CGS) of Standard and Poor's (2002). CGSs are developed to assess corporate governance practices and policies, and the extent to which they serve the interests of the company's financial stakeholders. Standard & Poor's (2005) states that though the CGS is geared towards the equity investor's perspective, governance issues are regularly examined as part of the credit rating methodology.

Focusing on corporate credit ratings instead of Tobin's Q we change the modelling framework to an ordered logit to account for the discrete nature of credit ratings. Similar to our analysis for Tobin's Q, we account for unobserved cross-sectional heterogeneity by using a random effects specification.[5]

Table 4 shows that the control variables enter with their expected sign throughout all model specifications (1) to (5). In particular, higher (market) leverage, negative earnings, the presence of subordinated debt as well as a higher exposure to (systematic) risk as captured by beta decreases a company's credit rating. On the other hand, a larger size, high past profitability and a higher interest coverage ratio increases a company's debt rating. As expected, the marginal impact of a higher interest coverage ratio decreases. Whilst the coefficient on the first bracket shows the largest positive impact, the sign of the coefficient related to the last bracket actually turns out to be small and insignificant.

The coefficient on current profitability has the opposite sign of what we expect. However, including it as a stand-alone variable yields a statistically significant positive impact. The negative coefficient is probably caused by the inclusion of retained earnings, which has a strong and highly significant positive impact on ratings. D_{sub} gives an indication of the quality of a company's debt structure. For example, existing debt holders may have forced (e.g., via covenants) the company to issue subordinated debt in the past to prevent wealth redistributions with a possibly negative impact. Moreover, the mere existence of subordinated debt may make the issuance of claims that have a higher priority in case of default more difficult. In general, a company without subordinated debt might thus have better refinancing possibilities, which could explain the negative coefficient obtained.

Consistent with Ashbaugh-Skaife et al. (2006) the positive coefficient on GIM reveals that a higher governance index is associated with higher ratings. It seems that rating agencies are foremostly concerned about shifts in balance of power towards shareholders. Given the positive coefficients, we conclude that compromising on shareholder rights has a positive

[5]We maximize the loglikelihood

$$\sum_i \ln \int_{-\infty}^{\infty} \left[\Pi_{t=1}^{T_i} \left\{ F(\gamma_{y_{it}} - x_{it}^T\beta - \sigma_u u_i) - F(\gamma_{y_{it}-1} - x_{it}^T\beta - \sigma_u u_i) \right\}^{c_{i,t}} \right] f(u_i) du_i$$

where $m \in \{1, 2, \ldots, M\}$, $\gamma_0 = -\infty$ and $\gamma_M = \infty$, and $c_{i,t}$ equals 1 if firm i is in the sample in period t. We assume the individual effects u_i are normally distributed.

impact on corporate credit ratings.

Model (1) shows that a larger total stake of blockholder ownersip is without exception negatively related to debt ratings. The dummy variables distinguishing between different blockholder types are negative and significant with respect to outside and affiliated blockholders. In contrast, the presence of ESOPs and directors is positively related to ratings, though this effect is insignificant.

Consistent with the Tobin's Q regressions of Table 3, model (2) in Table 4 shows that less blockholder concentration (i.e., a higher value of the Herfindahl index) is negatively related to credit ratings. The effect is there for both medium and high brackets of blockholdings, but only significant for companies with the largest fractions of blockholder ownership.

As with the analysis of Tobin's Q, we also check the robustness of our result for credit ratings by focusing on outside blockholdings. Model (3) confirms the relatively strong negative association between outside blockholdings and ratings. The interaction terms of model (4) reveals that at least part of this negative association can be ascribed to blockholder concentration. The magnitude and statistical significance of the medium and large bracket of aggregated blockholdings decreases.

Looking alternatively at differences between blockholder sizes[6] compromises on statistical significance (not reported). However, coefficients point consistently in the same direction. Less blockholder concentration is relatively more detrimental to credit ratings. The effect of shareholder rights on ratings, however, differs from its effect on Tobin's Q. Whereas GIM is negatively related to Q, it is positively related to credit ratings. This points to a potential conflict of interest between shareholders and debt holders.

In model (5) we include the interaction terms between shareholder rights and blockholder presence. Similar to the GIM index itself, the effects of the interaction terms on ratings are opposite from those of Tobin's Q. Good shareholder rights aggravate the negative effect of large blockholders on credit ratings. The coefficient on GIM itself hardly changes and remains significant. Complementarity of shareholder control and shareholder rights is in

[6]See footnote 4.

line with Cremers et al. (2007). They construct an anti-takeover index (ATI) out of four rather than 22 governance provisions that together make up GIM, to focus on the ability of management to obstruct or delay the direct interference by shareholders. The authors stress the importance of interaction between the magnitude of ATI and the presence of institutional blockholders, noting their results are similar when ATI is replaced by GIM.

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Once again, the inclusion of shareholder interaction leaves the coefficients of blockholder dispersion rather unchanged. The significance of blockholder dispersion for the middle bracket drops below 10%, but blockholder dispersion for the largest bracket remains significant and of similar size as for the other models. We therefore conclude that the negative impact of blockholder dispersion on perceived debt quality is robust.

5 Conclusion

This paper determines the effect of a firm's ownership structure, in particular the dispersion in blockholdings, on firms' stock and debt valuation. We obtain a consistently negative relation between blockholder dispersion and Tobin's Q. The results are robust to a variety of model specifications, including controlling for shareholder rights. The results also remain qualitatively robust if we consider the impact of blockholder dispersion and shareholder rights on perceived debt quality using corporate credit ratings as our dependent variable. Blockholdings are negatively related to credit ratings, with a relatively larger negative impact when block dispersion is higher.

Shareholder rights in our analysis are positively related to Q, but negatively to ratings. This suggests that a shift in balance of power towards shareholders is considered as a negative signal by credit rating agencies. Overall, we find slight evidence of an interaction effects between blockholder presence and shareholder rights.

A negative impact of blockholder presence suggests there may be room for private benefits of control, possibly at the expense of other stakeholders. Though there may be competing explanations, our theoretical and empirical results show that less blockholder concentration might aggravate this problem in two ways. First, the smaller ownership stake of blockholders in control enhances their failure to internalize negative externalities. This negative effect may be stronger than the opposite positive effect of monitoring by blockholders that are not in control. Secondly, even if blockholders are aware of their mutual incentives to divert resources, they might have no economic incentive to obstruct each others attempt to extract private benefits. This may make blockholders better off compared to the monitoring or collusion case, while the combined negative impact on firm value may be larger.

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Table 1: Data source description

To merge the different data sets we use the following time conventions. The time period considered are the calendar years stretching from 1996 to 2001. In each specific year we take the end of the year as our point of reference. Firm specific variables constructed using COMPUSTAT data are always related to the last closed fiscal year. Variables constructed out of CRSP data are always up to date. That is, market values of equity are calculated as the number of shares outstanding times the stock price at the end of the year. Betas are estimated using daily data from the current calendar year, where we require at least 200 return observations. In line with Gompers et al. (2003), we assume governance provisions do not change until the IRRC publishes new data. We use the blockholding data reported in the specific calendar year considered.

Variable	Description	Source or Compustat Number
Tobin's Q	Market Value/Book Value: (bv(assets) - bv(common stock) - deferred taxes + mv(CRSP))/bv(assets).	(6-60-74+ mv(CRSP))/6
ROA	Return on Assets: (Income Before Extraordinary Items)/Total Assets.	18/6
Lev	Leverage: Total Debt / Total Assets.	(9+34)/6
CapInt	Asset Tangibility : (Gross Property, Plant and Equipment (PPE))/Total Assets.	7/6
Size	Size: log(Total Assets).	ln(6)
Delaware	Delaware Incorporated: Equal to one if the company is incorporated in Delaware.	Incorporation Code
CapExp	Capital Expenditure: (Capital Expenditure on Property Plant and Equipment)/Total Assets.	30/6
Age	Age: log(Months since first listing CRSP).	CRSP
β	Beta: Beta coefficients are obtained by regressing daily company stock returns from the current calendar year on market returns (i.e., the Wilshire5000), where we require at least 200 return observations. To adjust for nonsynchronous trading effects we use the method suggested by Dimson (1979), adding one leading and one lagging value of the market return as explanatory variables. Though it does not affect results, in line with Blume et al. (1998), each year we scale betas by their cross-sectional mean.	CRSP
Rating		S&P CREDITPRO 7.0 (June 2005 version)
Fin/Utility	Fin/Utility: 1 if the firm is a financial institution (1 digit SIC code 6) or a utility (2 digit SIC code 49).	SIC code
Lev	Leverage (Market): log(Total Debt / mv(CRSP)).	(9+34)/CRSP
loss(t-1,t)	Losses: Equal to 1 if net income before extraordinary items <0 in the previous two fiscal years.	18
Dsub	Subordinated Debt: 1 if the firm has subordinated debt.	80
margin	Operating Margin: (Operating Income Before Depreciation) / Sales-net.	13/12
ret	Retained Earnings: Retained Earnings / Total Asset.	36/6
β	Beta: See description above.	CRSP
Size	Size: log(Total Assets).	ln(6)
covj	Interest Coverage: In line with Blume et al. (1998), as of skewness, we adjust the way interest coverage enters the model. For a negative value is not meaningful, we first set negative values to zero and truncate the maximum value to 100. Subsequently we use 4 brackets, with boundaries at coverage ratio's 5, 10 and 20, such that nonlinearities can be picked up by the model. If x denotes the interest coverage ratio, we have cov1=median$(0, x, 5)$, cov2=median$(0, x-5, 5)$, cov3=median$(0, x-10, 10)$, cov4=median$(0, x-20, 80)$. For example, if $x=40$, cov1=5, cov2=5, cov3=10, cov4=10.	(15+178)/15
Governance variables		Online Source*
GIM	Governance index: Uses 22 charter provisions, bylaw provisions, and other firm-level rules, plus possible coverage under 6 state takeover laws, see Gompers et al. (2003).	
Affiliated	Affiliated Entities: Blockholder (e.g., an individual, company or trust) whose voting outcome is partially influenced, but not completely controlled, by an officer or director of the company.	
ESOP	Employee Share Ownership Plans: Blockholding by Employee Share Ownership Plans. Does not include employee shares held through non-ESOP retirement plans (e.g., non-ESOP 401(k) plans).	
Director	Director: Non-officer directors.	
Officer	Officer: Officers, even when they are are also directors.	
Outsider	Outside blockholders: Blockholders that are not part of one of the other categories.	
Herfindahl	Herfindahl Index (Scaled): Herfindahl = $[(\%\text{Block1}) + (\%\text{Block2}) + \ldots + (\%\text{Block5})]^2 / [(\%\text{Block1})^2 + (\%\text{Block2})^2 + \ldots + (\%\text{Block5})^2]$.	

*The governance variables can be obtained from Andrew Metrick's homepage at the Yale School of Management (http://www.som.yale.edu/faculty/am859).

Table 2: Distribution of Blockholder Types

Notes: All statistics relate to the Tobin's Q sample of 3,654 firm-year observations. The rating sample yields qualitatively similar results. The upper part of the table shows the largest blockholder type distribution, scaled by the total number of observations. The lower part of the table gives an overview of successors, conditioned on largest blockholder type. Affiliated entities, ESOPs, Directors and Officers are merged into one insider category.

		Largest Blockholder				
		Affiliated %	ESOP %	Director %	Officer %	Outsider %
Coverage		7.0	6.4	3.6	5.8	62.5
		Successors				
Second	None	22.2	39.7	34.1	25.5	22.9
	Insider	20.6	8.5	22.0	20.3	9.4
	Outsider	57.2	51.7	43.9	54.2	67.7
Third	None	52.5	71.4	56.1	48.6	52.2
	Insider	10.9	4.3	6.8	9.0	5.5
	Outsider	36.6	24.4	37.1	42.5	42.3
Fourth	None	77.4	87.2	73.5	69.8	75.2
	Insider	7.4	1.3	10.6	4.2	2.8
	Outsider	15.2	11.5	15.9	25.9	22.0
Fifth	None	92.6	94.0	87.1	89.2	88.9
	Insider	1.6	0.9	4.5	1.4	1.1
	Outsider	5.8	5.1	8.3	9.4	10.1

Table 3: Estimation Results for Tobin's Q

Notes: This table presents random effect unbalanced panel regressions of Tobin's Q on governance and control variables for 828 U.S. companies over the period 1996-2001, resulting in a total of 3,654 firm-year observations. To reduce the weight of outliers, Tobin's Q is capped at the 5 and 95 percentiles. The control variables are capped at the 0.5 and 99.5 percentiles. The control variables used are: Return on Assets (ROA), Leverage (Lev), Capital Intensity (CapInt), Firm Size (Size), a dummy equal to one if the company is incorporated in Delaware (Delaware), Capital Expenditure (CapExp), Firm Age (Age) and Market Beta (β), industry dummies based on 2 digit SIC codes (not reported), and time dummies (not reported). GIM denotes the governance index proposed by Gompers et al. (2003), consisting of 24 provisions, which adds 1 point if a provisions compromises on shareholder rights (GIM). The remaining variables refer to a firm's ownership structure, in terms of blockholding. Blockholders are shareholders owning 5 percent or more of a firm's stock. Ownership variables enter as 0-1 indicators. The blockholder types considered are: Affiliated entities (Affiliated), Employee Stock Ownership Plans (ESOP), non-officer directors (Director), officers, even when they are also directors (Officer) and outside blockholders (Outsider). %Small, %Medium and %Large denote the total percentage of shares held by blockholders subdivided within three brackets, with boundaries at the 5, 10 and 25 percent level, respectively. The Herfindahl variable measures ownership concentration, considering the (potentially) 5 largest blockholders. Herfindahl = $[(\%\text{Block1}) + (\%\text{Block2}) + \ldots + (\%\text{Block5})]^2 / [(\%\text{Block1})^2 + (\%\text{Block2})^2 + \ldots + (\%\text{Block5})^2]$. The left-hand panel relates to all blockholders. The right-hand panel considers outside blockholders only. σ_v and σ_u denote the estimated between-groups and within-groups variance, respectively. Standard errors are in parentheses. a,b,c denote statistical significance at the 1, 5 and 10 percent level, respectively.

	All Blocks		Outsiders		
Variable	(1)	(2)	(3)	(4)	(5)
C	2.20 (0.22)^a	2.18 (0.22)^a	2.18 (0.22)^a	2.18 (0.22)^a	2.07 (0.22)^a
ROA	2.30 (0.16)^a	2.30 (0.16)^a	2.27 (0.16)^a	2.29 (0.16)^a	2.29 (0.16)^a
Lev	-0.68 (0.10)^a	-0.67 (0.10)^a	-0.68 (0.10)^a	-0.68 (0.10)^a	-0.68 (0.10)^a
CapInt	-0.07 (0.07)	-0.07 (0.07)	-0.07 (0.07)	-0.07 (0.07)	-0.07 (0.07)
Size	-0.06 (0.02)^a	-0.06 (0.02)^a	-0.06 (0.02)^a	-0.06 (0.02)^a	-0.06 (0.02)^a
Delaware	0.11 (0.05)^a	0.11 (0.05)^b	0.12 (0.05)^a	0.11 (0.05)^a	0.11 (0.05)^a
CapExp	0.31 (0.32)	0.33 (0.32)	0.31 (0.32)	0.33 (0.32)	0.33 (0.32)
Age	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)
β	0.14 (0.02)^a	0.15 (0.02)^a	0.14 (0.02)^a	0.14 (0.02)^a	0.14 (0.02)^a
GIM	-0.02 (0.01)^a	-0.02 (0.01)^a	-0.02 (0.01)^a	-0.02 (0.01)^a	-0.01 (0.01)^c
Affiliated	0.02 (0.05)	0.01 (0.05)	-0.05 (0.05)	-0.05 (0.05)	-0.05 (0.05)
ESOP	-0.06 (0.05)	-0.04 (0.05)	-0.10 (0.05)^b	-0.10 (0.05)^b	-0.10 (0.05)^b
Director	0.07 (0.06)	0.08 (0.06)^c	0.02 (0.06)	0.01 (0.06)	0.01 (0.06)
Officer	-0.01 (0.06)	0.00 (0.06)	-0.06 (0.05)	-0.06 (0.05)	-0.06 (0.05)
Outsider	-0.03 (0.04)	0.02 (0.04)			
Blockholding aggregated					
%Small	-1.39 (0.60)^a	-2.19 (0.64)^a	-1.29 (0.45)^a	-1.50 (0.46)^a	-2.07 (0.63)^a
%Medium	-0.42 (0.23)^b	0.19 (0.42)	-0.61 (0.18)^a	0.14 (0.44)	-0.11 (0.46)
%Large	-0.46 (0.12)^a	-0.23 (0.16)^c	-0.54 (0.10)^a	-0.27 (0.18)^c	-0.26 (0.19)^c
Herfindahl index					
Herfindahl*Medium		-0.09 (0.03)^a		-0.07 (0.03)^b	-0.07 (0.03)^b
Herfindahl*Large		-0.05 (0.02)^a		-0.04 (0.02)^b	-0.04 (0.02)^b
High shareholder rights					
(GIM $\leq$ 10)*Small					0.08 (0.06)^c
(GIM $\leq$ 10)*Medium					0.10 (0.05)^b
(GIM $\leq$ 10)*Large					0.03 (0.06)
R^2	0.20	0.20	0.20	0.20	0.20
n	3,654	3,654	3,654	3,654	3,654
firms	828	828	828	828	828
σ_v	0.31	0.31	0.30	0.31	0.31
σ_u	0.40	0.40	0.41	0.40	0.40

Table 4: Estimation Results for Corporate Credit Ratings

Notes: This table presents random effect unbalanced panel regressions of Standard and Poor's corporate credit ratings on governance and control variables for 826 U.S. companies over the period 1996-2001. The control variables used are: the dummy Fin/Utility equal to one if the company is a financial institution (one digit SIC code 6) or a utility (two digit SIC code 49), Market Leverage (Lev), a dummy equal to one if net income before extraordinary items is negative in the previous two fiscal years (losst-1,t), a dummy equal to one if the firm has subordinated debt (Dsub), interest coverage (covj), Operating Margin (margin), Retained Earnings (ret), Market Beta (β), Firm Size (Size), and time dummies (not shown). Control variables are capped at the 0.5 and 99.5 percentiles. GIM denotes the governance index proposed by Gompers et al. (2003), consisting of 24 provisions, which adds 1 point if a provisions compromises on shareholder rights (GIM). The remaining variables refer to a firm's ownership structure, see Table 3. The left-hand panel relates to all blockholders. The right-hand panel considers outside blockholders only. σ_v denotes the estimated standard deviation of the random effect.) McFadden's LR index (Pseudo-R^2) equals $1 - \ln(L)/\ln(L_0)$, where L_0 denotes the likelihood statistic when, apart from a constant, no explanatory variables are included. Standard errors are in parentheses. a,b,c denote statistical significance at the 1, 5 and 10 percent level, respectively.

	All Blocks		Outsiders		
	(1)	(2)	(3)	(4)	(5)
Fin/Utility	4.23 (0.42)^a	4.38 (0.63)^a	4.29 (0.42)^a	5.24 (0.61)^a	4.55 (0.47)^a
Lev	-0.98 (0.08)^a	-0.99 (0.08)^a	-0.98 (0.08)^a	-1.01 (0.08)^a	-0.99 (0.08)^a
loss(t-1,t)	-1.04 (0.28)^a	-1.09 (0.28)^a	-1.03 (0.28)^a	-1.02 (0.29)^a	-0.99 (0.28)^a
Dsub	-0.51 (0.22)^b	-0.62 (0.22)^a	-0.50 (0.22)^b	-0.69 (0.24)^a	-0.66 (0.22)^a
cov1	0.31 (0.06)^a	0.31 (0.06)^a	0.30 (0.06)^a	0.29 (0.06)^a	0.32 (0.06)^a
cov2	0.14 (0.04)^a	0.14 (0.04)^a	0.14 (0.04)^a	0.15 (0.04)^a	0.12 (0.05)^a
cov3	0.07 (0.03)^a	0.07 (0.03)^a	0.07 (0.03)^a	0.07 (0.03)^b	0.07 (0.03)^a
cov4	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
margin	-1.42 (0.72)^b	-1.49 (0.76)^b	-1.43 (0.70)^b	-1.45 (0.73)^b	-1.34 (0.69)^b
ret	5.73 (0.51)^a	5.76 (0.52)^a	5.78 (0.51)^a	5.89 (0.48)^a	5.72 (0.52)^a
β	-0.43 (0.09)^a	-0.45 (0.09)^a	-0.43 (0.09)^a	-0.41 (0.09)^a	-0.43 (0.09)^a
Size	2.62 (0.13)^a	2.54 (0.13)^a	2.64 (0.13)^a	2.59 (0.14)^a	2.57 (0.12)^a
GIM	0.09 (0.04)^b	0.13 (0.05)^a	0.09 (0.04)^b	0.16 (0.05)^a	0.11 (0.05)^b
Affiliated	-0.44 (0.27)^c	-0.34 (0.25)^c	-0.67 (0.27)^a	-0.48 (0.29)^b	-0.63 (0.28)^b
ESOP	0.10 (0.23)	0.04 (0.25)	-0.07 (0.23)	-0.09 (0.23)	-0.14 (0.24)
Director	0.16 (0.27)	0.12 (0.27)	-0.01 (0.27)	0.08 (0.27)	-0.10 (0.26)
Officer	-0.18 (0.28)	-0.16 (0.28)	-0.36 (0.28)^c	-0.12 (0.28)	-0.40 (0.27)^c
Outsider	-0.32 (0.16)^b	-0.27 (0.17)^c			
Blockholding aggregated					
%Small	-4.84 (2.61)^b	-5.60 (2.73)^b	-7.01 (1.87)^a	-7.49 (1.91)^a	-5.81 (2.62)^b
%Medium	-2.85 (1.05)^a	-3.31 (1.88)^b	-3.35 (0.77)^a	-2.14 (1.89)	-1.20 (1.94)
%Large	-2.04 (0.61)^a	-0.97 (0.75)^c	-2.33 (0.49)^a	-0.98 (0.85)	-0.45 (0.89)
Herfindahl index					
Herfindahl*Medium		-0.03 (0.15)		-0.14 (0.11)^c	-0.14 (0.14)
Herfindahl*Large		-0.14 (0.08)^b		-0.16 (0.09)^b	-0.19 (0.09)^b
High shareholder rights					
(GIM $\leq$ 10)*Small					-0.29 (0.24)
(GIM $\leq$ 10)*Medium					-0.31 (0.21)^c
(GIM $\leq$ 10)*Large					-0.23 (0.24)
σ_u	6.09 (0.18)^a	6.11 (0.21)^a	6.08 (0.18)^a	6.14 (0.29)^a	6.39 (0.20)^a
LR index (Pseudo-R^2)	0.43	0.43	0.43	0.43	0.43
n	3,315	3,315	3,315	3,315	3,315
firms	826	826	826	826	826

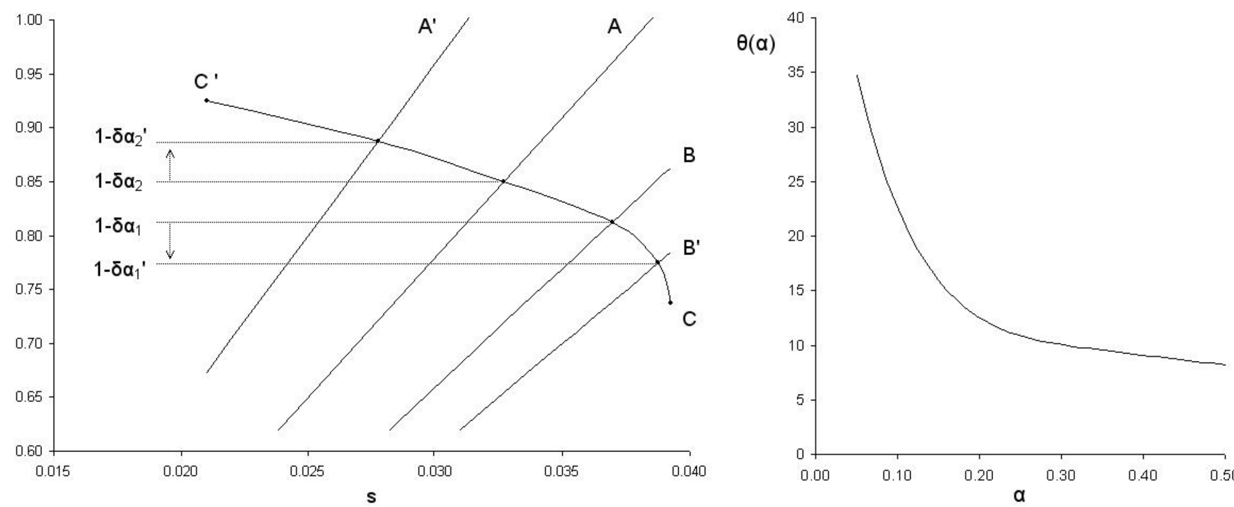

Figure 1: Increased Dispersion of Blockholders and Firm Value

The solid lines A and B in the left-hand figure are the marginal cost curves $2\theta \cdot s$ for blockholder 2 (small) and 1 (large), respectively. The right-hand figure gives the value of θ as a function of blocksize α. Larger blocks in this example steal more efficiently. The lines A' and B' give the shifted marginal cost curves for increased dispersion in block ownership, from α_1 to $\alpha_1' > \alpha_1$, and a decrease from α_2 to $\alpha_2' < \alpha_2$, keeping $\alpha_1 + \alpha_2$ constant. The locus CC' characterizes the optimal stealing levels by intersecting the marginal cost curves $\theta\alpha$ with marginal 'benefit' $1 - \delta\alpha$ for various values of α.